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Find the *Abaco Systems / VMIC VMIVME-5530S* at our website: ***Click HERE***

VMIVME-5530L
VMEbus Fiber-Optic Repeater Link

- High-performance, easy-to-use method of linking two or more VMEbus systems together via fiber-optic cable
- Software transparent allows direct communication from primary chassis to secondary chassis with no software overhead (undirectional link control with bidirectional data transfers)
- Plug-and-play operation
- Supports both 8- and 16-bit data transfers (bidirectional)
- Supports 16-bit addressing
- Total electrical isolation between VMEbus systems
- Maximum 6,560 feet (2,000 meters) fiber-optic cables
- Advantages over standard repeaters:
  - — Small cables
  - — High noise immunity
  - — High voltage isolation
  - — No EMI generated by cables
- The VME-to-VME link consists of two boards and two fiber-optic cables
- Selectable address modifier on secondary chassis (supervisory or nonprivileged)
- Allows expansion to multiple backplanes in star expansion configuration
- Double Eurocard form factor

PRODUCT OVERVIEW — The VMIVME-5530 Link is a high-performance, yet easy-to-use method of linking two or more VMEbus systems together via fiber-optic cable. The Repeater Link is a two-board set, which allows VMEbus slave I/O boards residing in one VMEbus chassis to be controlled by a VMEbus master residing in another chassis. The VMEbus chassis in which VMEbus masters reside is referred to as a primary chassis, while the VMEbus slave boards reside in a secondary chassis. The two-board set is configured as shown in Figure 1 with one board designated for the primary chassis while the other board is designated for the secondary chassis. A master VMEbus chassis can communicate with several secondary chassis by using multiple REPEATER Links in a star configuration as shown in Figure 2.

The link is software transparent. Any VMEbus master in the primary chassis may access (Read or Write) to any slave board in the secondary chassis. Only slave boards are allowed in the secondary chassis.

The link between the primary chassis and secondary chassis is automatically established when a VMEbus master (typically a CPU board) addresses any board in the secondary chassis.

Any time a master in the primary chassis issues a short I/O address (A16), it will be repeated to the secondary chassis. If a slave board in any secondary chassis responds to that address, the data transfer (Read or Write) will occur between the chassis and a Data Transfer Acknowledge (DTACK) will be generated to the master (in primary chassis) to complete the cycle.

A link consists of two boards (VMIVME-5530M and VMIVME-5530S) and two cables which enable a VMEbus system to be expanded beyond a single chassis. Refer to Figures 3 and 4 for a block diagram of each board.

PHOTO NOT AVAILABLE

Ordering Options

Jan. 20, 1992 800-005530-000 C		A	B	C	–	D	E	F
VMIVME-5530L	–	0			–			

A = 0 (Option reserved for future use)
BC = Cable Lengths
00 = Not Used
01 = 5 feet (1.5 meters)
02 = 25 feet (7.6 meters)
03 = 50 feet (15.2 meters)
04 = 100 feet (30.4 meters)
05 = 150 feet (45.7 meters)
06 = 200 feet (60.9 meters)
07 = 350 feet (106.7 meters)
08 = 500 feet (152.4 meters)
09 = 1,000 feet (304.8 meters)
10 = 1,500 feet (457.3 meters)
11 = 2,000 feet (609.7 meters)
12 = 2,460 feet (750.0 meters)
13 = 3,280 feet (1,000 meters)
14 = 4,100 feet (1,250 meters)
15 = 4,920 feet (1,500 meters)
16 = 5,740 feet (1,750 meters)
17 = 6,560 feet (2,000 meters)

Connector Data

Compatible Connector	ST Connector
PC Board Fiber-Optic Connector	Fiber-Optic Receiver HFBR-2416 (Hewlett-Packard)
	Fiber-Optic Transmitter HFBR-1414 (Hewlett-Packard)

Boards Specifications

		A	B	C	–	D	E	F
VMIVME-5530M	–	0	0	0	–			

ABC = 000 (Options reserved for future use)

		A	B	C	–	D	E	F
VMIVME-5530S	–	0	0	0	–			

ABC = 000 (Options reserved for future use)

For Ordering Information, Call:
1-800-322-3616 or 1-256-880-0444 • FAX (256) 882-0859
E-mail: info@vmic.com Web Address: www.vmic.com
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VMEbus SPECIFICATIONS

VMEbus Compliance: Complies with VMEbus Specification Revision C.1 A16: D16, D08 (EO)

VMIVME-5530M is DTB slave (for use in Primary Chassis)

VMIVME-5530S is DTB master (for use in Secondary Chassis)

Form factor - double height, single-slot

VMEbus Signals Repeated[1] to Secondary Chassis: A1 to A15, D0 to D15, DS0*, DS1*, WRITE*, SYSRESET*, SYSCLK, AM0 to AM5, LWORD*, IACK*

VMEbus Signals Returned to Primary Chassis: D0 to D15, DTACK*

Address Modifier Response[2] (Jumper-Selectable on Master Board): 29, 2D, or both (VMIVME-5530M)

Address Modifier Generation (Jumper-Selectable on Slave Board): 29 or 2D (VMIVME-5530S)

Transfer Overhead: 2.7 µs Read Cycle Overhead
2.64 µs Write Cycle Overhead

Transfer Rate (Maximum) (10-foot Cable Length): Assuming a slave board in the secondary chassis responds in 250 ns:

677,900 bytes/s (Read Cycles)
692,000 bytes/s (Write Cycles)

CABLE SPECIFICATIONS

Mode: Multi

Length: 5 to 6,560 feet (1.5 to 2,000 meters)

Fiber Size: 62.5 micron

Clad Size: 125 micron

Buffer Size: 900 micron

Maximum Attenuation at 1,300 nm: 9.0 dB (including connectors)

Bandwidth at 1,300 nm: 500 MHz-km

Boot Length: 20 to 60 mm

U.L./NEC Rating: OFNP

Connector Style: ST, 2.5 mm Bayonet, both ends

Quantity Required: two per link

Note: Cables conforming to this specification are supplied with VMIVME-5530L. To order cables separately, please refer to specification number VMICBL-000-F3-xxx.

PHYSICAL/ENVIRONMENTAL

Temperature Range: 0 to 55 ˚C, operating
-20 to 85 ˚C, storage

Relative Humidity: 20 to 80 percent, relative noncondensing

Altitude: Operation to 10,000 feet

Cooling: Forced air convection

Dimensions: Double height (6U) board
160 mm x 233.35 mm

Power Requirements: For VMIVME-5530S: 2 A typical at 5 VDC, 2.5 A maximum

For VMIVME-5530M: 2 A typical at 5 VDC, 2.5 A maximum

TRADEMARKS

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1. The following signals are regenerated at the secondary chassis instead of being sent over the fiber-optic cable: SYSCLK, AM0 to AM5, LWORD*, and IACK*
2. For standard VME short I/O option. For GE-Fanuc translations, refer to the VMIVME-5530 Installation and Integration Guide.

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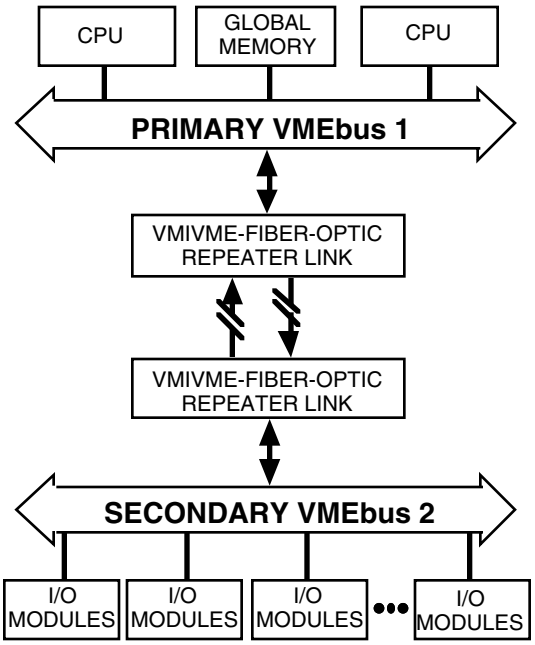


Figure 1. Single Link Application Diagram

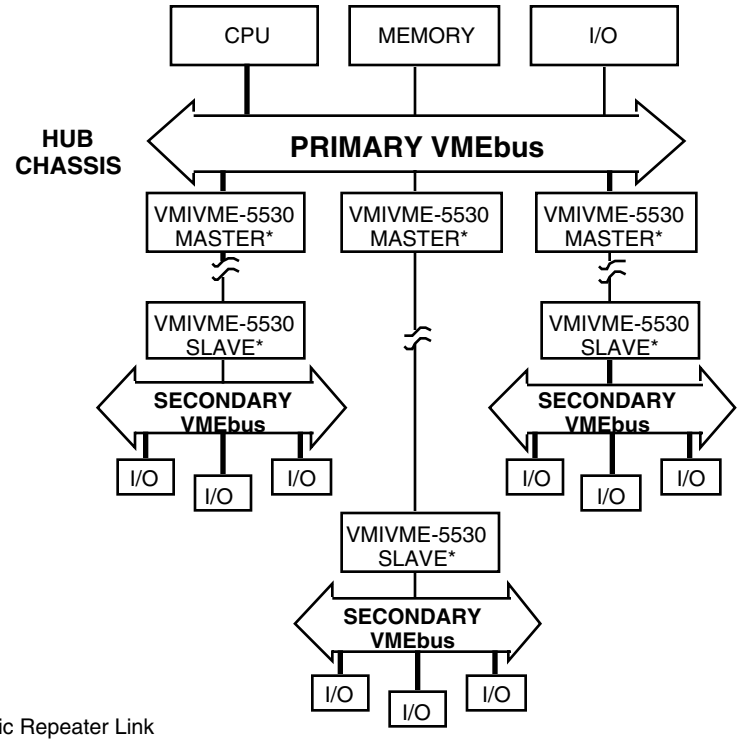


Figure 2. Star Configuration

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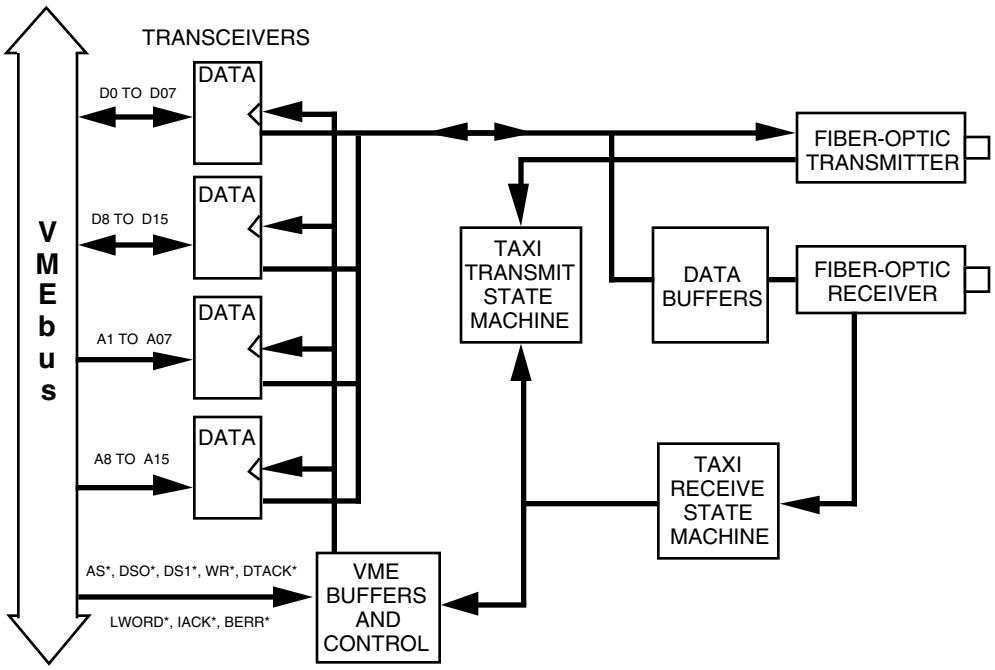


Figure 3. Block Diagram of 5530M Primary Chassis Repeater Link Board

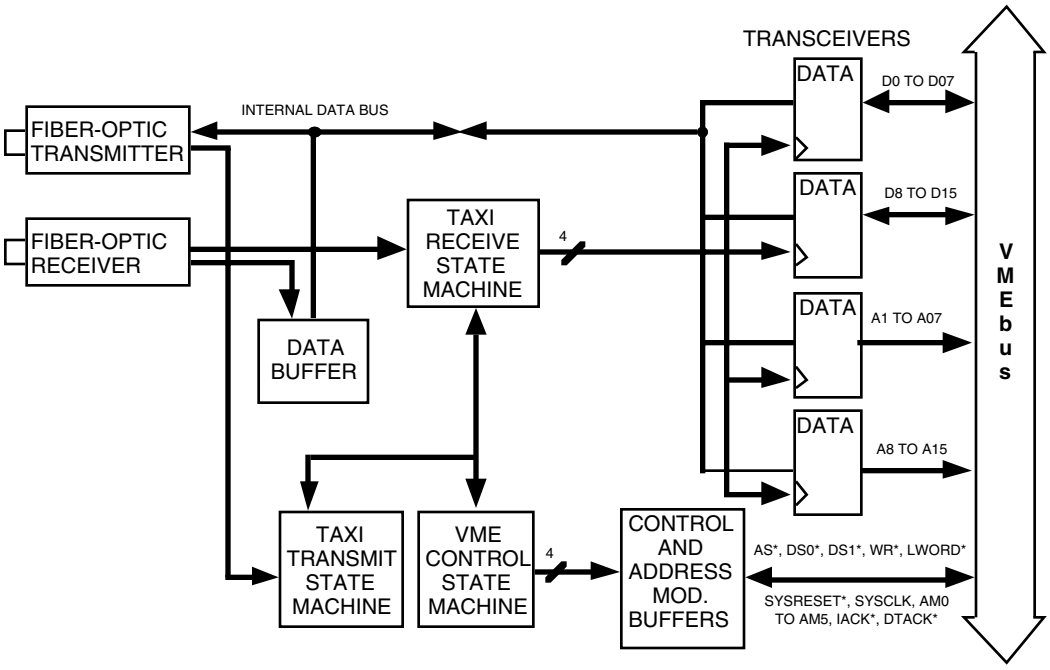


Figure 4. Block Diagram of 5530S Secondary Chassis Repeater Link Board

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